

# **Chapter 8**

## **Transportation Chapter**

### **INTRODUCTION**

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Like most suburban communities, Fremont's transportation system and pattern of land development were planned around the use of the automobile. Almost all daily transportation needs in Fremont are met by automobile or truck.

The automobile provides a degree of mobility, comfort and convenience unmatched by other modes of transportation. But while automobiles provide benefits, they also have significant costs. Roads are becoming congested, and the high costs (both environmental and monetary) of building new roads are becoming prohibitive. These are the dilemmas facing every Bay Area city devising transportation strategies for the 21st Century.

In the first section of this Chapter Fremont's current transportation system is described. In the second section projections and assumptions about Fremont's transportation future are presented. Finally, the third section shows how Fremont will address its transportation needs over the next two decades.

The setting and projection sections are summaries of the Transportation Background Report which provides additional detail and technical information supporting this Chapter.

### **SETTING**

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Fremont's transportation system is composed of all of the elements by which goods and people are moved through and to it: the City's roads, trains, bus systems, bicycle and pedestrian ways.

### **Demand for Transportation**

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Most people meet their daily needs within a relatively short distance of their work or home. Problems in the transportation network generally occur during the peak hours of travel demand when people are commuting to and from work, generally between 7 - 9 AM and 4 - 6 PM. An evaluation of commute patterns is one means to assess the "demand" for transportation services such as roads and transit.

## Commute to Work

In 1980, when information was last gathered (1980 Census), almost 95 percent of workers in the Tri-City area (Fremont, Newark, Union City) commuted to work by auto. Only 1.5 percent used transit, and a little less than 4 percent used other means.

Figure 8-1 shows where residents of the Tri-City area worked in 1980 (Source: U.S. Census). Because Fremont has many more workers living here than jobs, the largest travel demand at peak hours is on the regional transportation network going to or from major job centers throughout the region. In 1980, 36% of Tri-City residents worked within the Tri-City area, while 18% worked elsewhere in Southern Alameda County and 19% in San Jose or Silicon Valley.

Figure 8-2 shows where people working in the Tri-City area lived in 1980. An unusually high proportion of Tri-City area jobs (64%) were filled by Tri-City residents and another fourteen percent by persons living elsewhere in Southern Alameda County. These statistics suggest that Fremont job holders tend to locate near their work, reducing the long-distance commuting associated with other job centers in the region.

## Roadway Network

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### Roadway Classification

Streets in Fremont are classified into five major types, based on their primary function. Typical cross-sections of each type of street (with the exception of freeways) are presented in Figure 8-3.

**Freeway.** These are high speed, high capacity facilities with grade separated intersections intended to meet the need for longer trips. Freeways are under the jurisdiction of the State Department of Transportation (CALTRANS).

**Expressways.** An expressway is similar to an arterial except that it has no or very few private driveways and grade separated intersections are not uncommon. All expressways have medians dividing opposing traffic. No expressway currently exists in Fremont.

**Arterials.** Arterials are high capacity local facilities which meet the demand for longer, through trips within a community. Since movement, not access, is the primary function of an arterial, controlling access is important. Too much access tends to reduce the capacity of a facility. Arterials may be divided by a median, or undivided and typically have two or three lanes in each direction.

**Figure 8-1**  
**Where Tri-City\* Residents Work, 1980**

**Figure 8-2**  
**Where Tri-City Employees Live, 1980**

**Figure 8-3**  
**Typical Street Cross-sections**





**Parkway.** A parkway functions as an expressway or arterial but is designed, as its name implies, to have a “park-like” quality with more landscaping and openness. Parkways therefore require increased setbacks and wider right of way than a standard arterial.

**Collector.** A collector street provides both access and movement within residential, commercial, and industrial areas. These roads serve relatively short trips and collect trips from local streets and distribute them to the arterial network.

**Local.** The primary function of these streets is land access. Movement on local streets is incidental and involves traveling to or from a collector street.

The current system of major streets (freeways, arterials and collectors) is shown on Figure 8-4. Those streets not shown are considered minor. While the vast majority of streets in Fremont are public, the City also has permitted the development of privately owned and maintained streets within residential, commercial and industrial developments.

## **Sidewalks**

It is the policy of the city to require installation of concrete sidewalks on both sides of all public streets at the time of adjacent development. In private streets in the hill area, a sidewalk along only one side of the street is allowed to reduce the amount of grading needed. This one-side sidewalk policy has left some homes without sidewalks and occasionally impaired the pedestrian circulation system where it is discontinuous. It is a particular concern for children walking to school.

## **Condition of Fremont Streets**

Because Fremont has been built primarily in the last twenty-five years, most of Fremont’s streets are designed to meet modern standards for accommodating the automobile. Arterials have four to six lanes and turning lanes. Almost all major intersections are signalized with a left-turn cycle to avoid conflicting auto movements. Because most roadways are relatively new and have been sufficiently maintained, most roadway surfaces in Fremont are in good condition allowing for safe and convenient travel.

The City’s policy has been to require development of a road at the time of the development of adjacent property. As a result, some major thoroughfares and collectors have not been developed to their planned width in some locations throughout the City.



**Figure 8-4**  
**Existing Functional Classification**

## **Amount of Traffic on Fremont's Streets**

One common measure of the amount of traffic on city streets is how many cars use them in 24-hours. These volumes are indicated on Figure 8-5 for Fremont's major streets. The streets with the heaviest volumes are Mowry Avenue between Blacow Road and 1-880; Mission Boulevard, between Warm Springs Boulevard and 1-880; and Stevenson Boulevard, between Blacow Road and 1-880. Volumes are an indicator of travel patterns and the level of environmental impacts due to traffic (e.g., noise), but they do not necessarily indicate the presence of congestion problems. Congestion is related to several variables in addition to volume, such as the number of lanes, the presence of barriers (such as signals and intersections), and the concentration of traffic at peak times. To determine the level of congestion, a level of service analysis is used.

## **Level of Service**

On major City streets, the most significant feature affecting the quality of traffic flow is the signalized intersection. If an intersection is designed with enough capacity, vehicles should not have to wait through more than one signal cycle to get through it. If they have to wait through more than one cycle, such an intersection operates at a poor "level of service".

Intersections are rated based on a level of service scale. This scale is similar to school report cards in that an "A" to "F" rating is assigned to the intersection, with "A" representing excellent operating conditions and "F" representing failure. Measurements are usually taken at peak times, typically from 7 - 9 a. m. and 4 - 6 p.m. The following are examples of the different level of service grades:

- Levels of service (LOS) "A" and "B." These are the least congested intersections.
- LOS C. This is a stable operation with an acceptable level of delay.
- LOS D. At this level drivers may have to wait through more than one red signal, but delays are still considered tolerable. Most cities seek to maintain a minimum Level of Service of D at peak times.
- LOS E. These intersections are approaching their capacity and delays can be significant.
- LOS F. Intersections at LOS F are so congested that the intersection operates below its capacity with long queues potentially extending into adjacent intersections.

**Figure 8-5**  
**Street Volumes**

Level of service is determined by calculating an intersection's volume-to-capacity (V/C) ratio. This is the ratio of the amount of traffic actually going through an intersection compared to the total possible traffic capable of going through the intersection. The closer the intersection operates to capacity, the poorer its level of service. A "D" level of service, for example, would have a volume-to-capacity ratio of from 0.81 to 0.90.

An inventory was made in 1988 of the operating conditions at major intersections at peak times. Table 8-1 shows the LOS at fourteen worst intersections.

Congestion at intersections can cause other impacts besides delay. When routes are regularly congested, drivers often seek alternative routes through neighborhoods. Increased traffic on residential streets is a safety and environmental concern for those affected neighborhoods. This is not a persistent problem except in a few locations in Fremont at this time.

## **Regional Highways and Freeways**

The regional highway network consists of designated highways and freeways which connect Fremont to the remainder of the region and State. The freeways and highways are the arteries of the Bay Area's economy. Most Fremont workers commute on the regional highway and freeway network every day, and every business in the City is dependent on it. The highways traversing the City are developed and maintained by the California Department of Transportation (CALTRANS).

**Freeways.** Fremont is served by three freeways:

- **I-880.** This freeway connects Fremont to much of the rest of the East Bay, extending from Oakland to San Jose. It currently has two lanes in each direction from Santa Clara County line to Mission Boulevard, and three lanes to the northern City border. There are recurrent congestion problems southbound I-880 approaching the Santa Clara County line and northbound I-880 north of the Fremont-Alvarado Boulevard interchange. The State is currently expanding I-880 to four lanes in each direction to the Santa Clara County line and expects to have completed the work by 1995. One lane may be reserved for higher occupancy vehicles (e.g., three or more people) at peak times.
- **I-680.** This freeway connects Fremont to the Livermore/Amador Valley and then to Contra Costa County, the Central Valley and Sacramento. It has 2 lanes in each direction from the City's eastern border to Mission Boulevard, and three lanes from there south to the Santa Clara County line. This freeway does not have recurrent congestion problems at this time. Improvements to this freeway are also underway with a third lane being added in areas with only two lanes in each direction.

**Table 8-1**  
**Existing Levels of Service:**  
**Fourteen Worst Intersections, 1988**

#	Intersection	AM	PM
1.	I-880 NB Ramps & Durham	E(1.00)	E(1.00)
2.	Mission & Niles Canyon	E(0.98)	E(1.00)
3.	Mission & Mowry	E(0.99)	E(1.00)
4.	I-880 NB Ramps & Mowry	A(0.51)	E(1.00)
5.	Blacow & Central	A(0.24)	E(0.99)
6.	Fremont & Washington	C(0.79)	E(0.98)
7.	Blacow & Mowry	A(0.59)	E(0.98)
8.	Mission & Walnut	E(0.92)	E(0.94)
9.	Driscoll & Washington	D(0.90)	C(0.76)
10.	Grimmer & Durham	D(0.89)	D(0.87)
11.	Farwell/Omar & Stevenson	C(0.74)	D(0.89)
12.	Blacow & Stevenson	C(0.78)	D(0.86)
13.	Fremont & Central	C(0.77)	D(0.85)
14.	Fremont & Stevenson	B(0.65)	D(0.85)

Source: City of Fremont, Public Works Department

- **State Route (SR)-84.** The SR 84 freeway extends from I-880 west to the Fremont border and the Dumbarton Bridge leading to San Mateo and Santa Clara counties. This freeway generally has two lanes in each direction and a third high occupancy vehicle lane as it approaches the Bridge toll plaza. There is recurrent congestion during the AM peak westbound approaching the Bridge.

**Highways.** The State also designates non-freeway inter-regional routes or roadways as State highways. Non-freeway state highways in Fremont (Figure 8.4) are:

- **SR 84.** From the east this route comes from the Livermore Valley through Niles Canyon, proceeds west on Mowry to Peralta, Peralta to Fremont Boulevard connecting to Thornton, and west to I-880. This route has the most severe congestion in Fremont at the intersections of Mission Boulevard with Niles Canyon and Mowry.
- **SR 238.** From the north, this route follows Mission Boulevard from Hayward to I-680. Three of the fourteen worst intersections in the City are located on this route.
- **SR 262.** This route is Mission Boulevard between I-880 and I-680 in the Warm Springs District.

**Freeway Interchanges.** Some of the most severe existing congestion in Fremont is at interchanges with I-880. Most I-880 interchanges have existing congestion or are projected to have congestion due to approved development. Improvements to virtually every I-880 interchange are currently proposed.

## Transit

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Fremont is served by three public transit agencies: AC Transit, BART and Santa Clara County Transit. A separate para-transit service is provided through local public support. The three public agencies serving Fremont directly connect with at least ten other public transit agencies serving most of the rest of the Bay Area. In total, there are over two dozen public transit agencies in the nine county Bay Area.

### Bus: AC Transit

Fremont and Newark form AC Transit's District 2 which includes a total of 13 different bus lines with a route network oriented to the Union City and Fremont BART stations. These routes have generally the lowest ridership within AC Transit's jurisdiction. AC Transit also operates an express commuter bus from Fremont to the Stanford Industrial Park in Palo Alto.

A recent evaluation of District 2's routes by AC Transit had these criticisms:

1. Many areas are served by long one-way loops. These are the poorest performing routes, even though the neighborhoods they serve are no different from neighborhoods served by better used two-way routes.
2. New development is occurring in areas currently unserved, such as Ardenwood and the area around Thornton and Paseo Padre.

The efficiency and use of transit is strongly influenced by land use patterns. Transit use increases with increasing intensity and also when there are central destinations attracting many trips. Fremont currently lacks a strong central location (aside from the BART station) and much of the City is developed at relatively low densities.

Road and building development standards also affect the convenience and efficiency of transit. Industrial and commercial buildings can be oriented to be convenient for transit use. Convenient pedestrian routes from transit to buildings can encourage transit use. Transit can also be made more efficient and attractive through proper road design and provision of shelters.

### **Bus: Santa Clara County Transit**

Fremont is not within the Santa Clara County Transit district. However, Santa Clara County transit does serve the Fremont BART Station from Santa Clara County. Santa Clara County buses do not provide direct stops outside of the Fremont BART station within Fremont, but serve Milpitas and San Jose from the BART station.

### **Rail: BART**

BART is an intra-regional commuter rail system connecting Fremont to the rest of Alameda County and to Contra Costa County and San Francisco. There is one station in Fremont located adjacent to Fremont's Central Business District.

According to passenger survey information (1987), the Fremont BART station generates about 8800 person-trips per weekday. A 1982 survey found that about 80 percent of the Fremont station's trips originate within Alameda County, while the remaining 20 percent comes from Santa Clara County. The mode of access to the station was primarily by drive-alone vehicles (53.3%), while 24% of BART riders took the bus, 9 percent were dropped off, 8 percent walked, 2.5 percent were in carpools and 2.5 percent used other modes. The primary destinations for Fremont BART riders were other Alameda County stations (50 percent) and San Francisco (45 percent), with a small number destined for Contra Costa County (5 percent).

## **Paratransit**

The City of Fremont participates with Newark and Union City in providing paratransit services. The program is administered by Fremont staff and overseen by the Tri-City Transit Advisory Committee appointed by the city councils of the three cities. The current paratransit program provides demand-responsive, door-to-door transportation to those residents of Fremont who are unable to drive or utilize existing transit services. Funds are received from the State, County and AC Transit.

There are two different services offered:

1. Senior taxi. Senior Taxi is available to ambulatory persons 55 or older who can walk unaided to and from a taxi.
2. Paratransit. Paratransit service includes both taxi and van service. Paratransit taxi is for non-wheelchair bound riders who need special help during their trip. A paratransit van is used for those requiring a wheelchair. The paratransit service must be scheduled 24 hours in advance.

These paratransit services complement BART and AC Transit by enabling the transportation disabled population to access these systems. Combined, these services provided 28,714 trips in 1989. A needs assessment conducted for the Alameda County five-year paratransit plan found that Fremont had an unmet need of 12,313 taxi and 2,693 van trips a month in 1986.

## **Commercial Transportation**

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### **Trucks**

Fremont's industry and commerce is dependent on trucks to import goods and to export products. Trucks pose special concerns due to their size, weight and noise. Trucks accelerate slowly, take a large amount of road space, have large turning radii, are slow going up and down steep grades and break down pavement by their weight. They are noisier than automobiles due to their size and use of noisy speed reduction devices (such as Jacobs Brakes). As a result of these impacts, cities designate specific routes for truck traffic.

Fremont's current system of truck routes is shown on Figure 8-6. All trucks exceeding 10,000 pounds must use the truck routes except for local delivery or pick-up. Some truck routes are located on State routes where the designation is under the purview of the State. The existing lack of a connection between I-680 and I-880 leads to a significant amount of truck traffic on Mission Boulevard and on Durham Road, the most direct truck routes connecting the freeways. There is no truck terminal in Fremont.



## **Rail**

**Freight.** Fremont is crossed by several rail lines (shown on Figure 8-4) and is serviced by two major freight rail companies: Southern Pacific and Union Pacific. Limited information is available on commercial train traffic; estimates range from eight to twelve trains per day on some lines. Several at-grade rail crossings of major roads disrupt traffic and cause considerable congestion. Trains also pose a potential safety hazard, although accidents are rare.

**Passenger Rail.** While a passenger rail train (AMTRAK) passes through Fremont on its way to or from Oakland, there is no station in Fremont.

## **Airplanes**

Fremont has had a small airport for the use of gliders and their tow-planes. This airport is on land planned and scheduled for industrial development and is due to be closed. A possible small-plane general aviation commercial airport is under consideration for an area west of I-880. The City is reviewing the appropriateness of the site for airport use.

Two commercial general aviation airports are located within twenty miles of Fremont, one in Hayward and the other in San Jose. The nearest major commercial aviation facilities are located about twenty miles south in San Jose and twenty-five miles north in Oakland. The Oakland Airport is also served with a shuttle from the nearest BART station. The location of these facilities is shown in Figure 8-7.

## **Commercial Bus**

The City of Fremont is served by both the Greyhound and Peerless Stage bus companies. Peerless maintains a small bus station in Centerville. It provides service to Oakland and San Jose. Greyhound has two stops in Fremont, one in Mission San Jose, and another along Warm Springs Boulevard, traveling between Pleasanton and San Jose.

**Figure 8-6**  
**Truck Routes**

**Figure 8-7**  
**Regional Transportation Facilities**

## Bicycles and Pedestrians

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### Bicycles

The relatively flat terrain in Fremont is conducive to bicycling for recreation, commuting and other transportation needs. An extensive 86 mile on-street bicycle route system was originally planned for the City. However, only about 40 miles of bicycle routes have been completed on City streets and 15 miles off City streets. Bicycle routes have remained incomplete due to perceived safety hazards, conflicts with the desire for on-street parking, and lack of funds. Several routes lack key links. Most of the City's bicycle routes are located along thoroughfares. The existing bike lane system is shown in Figure 8-8.

### Pedestrians

There is an extensive recreational trail system serving portions of Fremont, including the Alameda Creek Trail and portions of a regional trail proposed for ringing the Bay. Sidewalks are a requirement for all developments abutting improved and unimproved streets, except in older industrial areas. An extensive pedestrian system was proposed and planned for the City's Central Business District, but only segments of the system have been implemented.

## Parking

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Although people need locations for parking in order to use automobiles and trucks, providing off-street space for cars is more a land use issue than transportation issue and is therefore largely addressed in the Land Use Chapter.

However, provision of parking becomes a transportation issue when parking and transportation needs conflict. This occurs in several ways:

- **On-street parking.** On-street parking on major streets can conflict with moving traffic, and reduce the amount of roadway width available for vehicles and bicycles. Conflicts between parking and travel currently occur most in some older commercial areas in Fremont and in some residential frontages.
- **Bicycle routes.** Parking is a concern in relation to bicycle routes where parked cars can reduce space for a bike-lane and be a potential safety hazard for bicyclists.
- **Access to parking.** The location of driveways and parking entrances can have a significant impact on the safety of a road. Improperly located driveways can also lead to traffic in areas (such as a residential neighborhood) where it is not desired.

**Figure 8-8**  
**Existing Bicycle System**

Parking strategies can also be a means to reduce traffic. For example, provision of park and ride facilities and sufficient parking at transit stations are means to reduce road congestion. There are currently two park and ride facilities in Fremont, one on Ardenwood Boulevard at Highway 84 and one at I-680 and Mission Boulevard. Fremont's BART station is one of the very few in the Bay Area with sufficient parking to meet current (1990) demand.

## **PROJECTIONS**

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The next twenty years are projected to bring growing congestion on Fremont's and the Bay Area's roads. Because of congestion, those cities providing more efficient and convenient alternatives to the auto will be better able to serve new development. State and Federal laws are also recognizing the necessity of providing alternatives to the auto in order to reduce the environmental impacts of our society's almost complete dependence on auto travel.

In Fremont, the auto will undoubtedly continue to be the dominant mode of transportation. The City must continue to address the needs of auto users. While Fremont cannot transform itself overnight into a City less dependent on the auto, it can begin now to plan for, and devote resources to, making alternatives more available and attractive.

This section describes the trends and assumptions about the future that are the basis for the City's transportation strategy, which is set forth in the section that follows.

## **Demand for Transportation**

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### **Projected Local Growth**

The demand for transportation increases with new development. The level of demand depends on the development permitted under the General Plan and on regional and local economic conditions. The Association of Bay Area Governments (ABAG) prepares projections for Bay Area growth through the year 2005. Regional transportation planning is based on ABAG's projections.

The City has extrapolated from ABAG's projections for the year 2005 to the year 2010. To be conservative in transportation planning and provide sufficient capacity on roads, the City's projections are based on somewhat higher levels of employment growth than might be expected from ABAG figures. The City's residential development projections are generally consistent with ABAG's.

## Regional Growth

ABAG's projections for the Bay Area as a whole show the region will add 881,000 more jobs and 882,000 more residents in the next 15 years. About one-quarter of the region's employment growth is projected to occur on the Peninsula from Silicon Valley to San Francisco. While this area is expected to add 228,000 jobs, it is projected to add enough housing to accommodate only 67,000 workers. The resulting deficit between work force and local residents is likely to translate into a significant increase in transportation demand from other parts of the region to the Peninsula corridor.

## Roadway Network

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Figure 8-9 shows the City's planned roadway network, by road function; Figure 8-10 shows the planned network by number of roadway lanes. Figure 8-10 shows expected improvements to the State Highway/Freeway network as well as to local roads. The City is planning only one major new arterial roadway, as follows:

- **Stevenson Extension.** This road is planned to connect to an arterial in Newark and provide a west-side alternative to I-880 for access to Fremont's industrial and commercial areas. The State has proposed a State Route (SR 61) on the west side of I-880 extending south from Oakland. In Fremont, the proposed route has been shown in the vicinity of the Stevenson Extension (see State Highway section below for further discussion). Due to the importance of providing alternative access to the industrial areas, the City may need to consider upgrading the proposed "Stevenson Extension" to a larger "expressway" type of route extending from Newark to the Santa Clara County line. Any proposed development of a road would need to consider and mitigate impacts on wetland resources. The City of Newark has shown a State Route connecting into Fremont on drafts of a new General Plan, but does not show a local arterial.
- The City is also examining the need for two connections shown as "Study Features" on Figure 8-9, Planned Transportation System. The first is the extension of Rancho Higuera Road to serve as a collector or an emergency vehicle accessway for the new and proposed residential development in that area. The second is the connection of Stevenson Boulevard Extension/Cushing Parkway to Fremont Boulevard. The need for these facilities as well as impacts on the adjacent neighborhoods would be carefully assessed.

No connection between Canyon Heights Drive and Morrison Canyon Road is shown on the Plan. However, pedestrian and emergency access needs will be assessed and provided if needed.

**Figure 8-9**



**Figure 8-10**

## City Road Conditions

The City's transportation model is used to estimate the impact of future traffic on the City's planned roadway network. The impact of expected growth in traffic on the Level of Service (LOS) is generally the issue of most concern in evaluating the adequacy of the road system. Based on initial assessments of the roadway network, this General Plan identifies specific improvements to intersections that will be necessary to improve the flow of traffic. These improvements are listed in an Appendix to the Transportation Background Report and are assumed to have been completed in the model. Because improvements are proposed to address existing roadway problems, the projected list of congestion problems is different from the list of projected problems. No local roadway to roadway grade separations are assumed or recommended in this General Plan.

The City's transportation model projects that 18 intersections will operate at LOS E or F in 2010. The location of those intersections is shown in Figure 8-10, and they are listed in Table 8-2.

When faced with expected congestion, an alternative strategy to increasing the "supply" of roads (i.e., more and wider roads), is to reduce the demand for travel at peak times. The set of strategies cities adopt to reduce demand are lumped under the title "Transportation Demand Management" (TDM) which is discussed below. The traffic model assumed that some of the trips normally expected at peak times would be diverted by a TDM program.

While congestion is never desirable, the City has concluded that it is sometimes not possible, and sometimes not desirable to mitigate the congestion. Of those identified at LOS E or F, almost all can be classified in one of four ways.

- **Regional Traffic.** In some locations (e.g., Durham Road), regional traffic with destinations and/or origins outside of Fremont is the primary cause of congestion and there is little the City can do alone to address the problem.
- **Inter-city Traffic.** At a few intersections (e.g., along Stevenson Boulevard and Mowry Avenue) inter-city traffic and regional traffic combine to cause congestion on streets which Fremont shares with its neighbors. In these instances, Fremont needs to work closely with its neighbor to address the problem.
- **Historic/Community Character.** Several of the City's arterials (e.g., Mission Boulevard, Fremont Boulevard and Washington Boulevard) are the "main streets" of the City's historic communities. Many of Fremont's historic buildings and much historic landscaping borders these streets. Widening to accommodate additional traffic would have a significant negative impact on that character.

**Figure 8-11**  
**Map of Worst Intersections, 2010**

**Table 8-2**  
**General Plan Level of Service**  
**Year 2010 Projections**  
**8/2/90**

Rank #	Intersection	AM		PM	
		V/C	LOS	V/C	LOS
1	Cherry/Boyce/Stevenson	1.11	F	0.82	D
2	Durham/Grimmer	1.10	F	1.06	F
3	Albrae/Stevenson	0.67	B	1.06	F
4	Fremont/Union/Washington	1.05	F	1.00	E
5	Lakeshore/Durham	0.64	B	1.02	F
6	Mowry/Paseo Padre	0.79	C	1.01	F
7	Mission/Mowry	0.78	C	0.98	E
8	Durham/Osgood	0.94	E	0.96	E
9	Cushing/Fremont	0.96	E	0.83	D
10	Blacow/Stevenson	0.81	D	0.96	E
11	Fremont/Peralta	0.96	E	0.84	D
12	Fremont/Thornton	0.94	E	0.86	D
13	I-880 NB off/Mowry	0.71	C	0.93	E
14	Durham/I-880 SB Ramp	0.93	E	0.74	C
15	Mission/Warm Springs	0.93	E	0.85	D
16	Alvarado/Deep Creek	0.92	E	0.85	D
17	Mission/Niles Canyon	0.83	D	0.91	E
18	Argonaut/Mowry	0.59	A	0.90	D
19	Paseo Padre/Walnut	0.70	B	0.89	D
20	Fremont/Mowry	0.74	C	0.89	D
21	Scott Creek/I-680 SB Off	0.82	D	0.89	D
22	Blacow/Mowry	0.83	D	0.88	D
23	Farwell/Mowry	0.79	C	0.88	D
24	Decoto/Fremont	0.87	D	0.85	D
25	Civic Center/Walnut	0.77	C	0.87	D
26	Peralta/Mowry	0.69	B	0.87	D
27	Blacow/Grimmer	0.80	C	0.86	D
28	Driscoll/Paseo Padre	0.76	C	0.85	D
29	California/Dixon Landing	0.85	D	0.50	A
30	Paseo Padre/Thornton	0.63	B	0.85	D
31	Civic Center/Mowry	0.50	A	0.85	D
32	Mission/Walnut	0.77	C	0.85	D
33	Blacow/Fremont	0.81	D	0.85	D
34	Paseo Padre/Peralta	0.77	C	0.84	D

Source: Citywide Traffic Model

**Assumptions:**

- a. General Plan streets built
- b. Freeway interchanges reconstructed
- c. I-680 to I-880 connector
- d. Local intersections improved per Impact Study
- e. Effective Transportation Demand Management Program
- f. SR 84 expressway to Mission; Route 61 expressway west of I-880
- g. SR 238 – 6 lanes

- **Development intensity.** A few intersections are congested due to projected high intensity development in the City's Central Business District (CBD). Limited congestion at a few intersections is considered an acceptable condition in order to achieve other goals of this General Plan regarding vitality and intensity in the CBD.

## Interchanges

Almost all of the I-880 interchanges will be re-built as a result of the widening of I-880. Until these improvements are made, most interchanges are projected to be congested, with some congestion related to development in adjacent cities. The City's traffic model does not indicate a need for improvements to existing I-680 interchanges and no significant improvements are currently proposed.

## State Highway Network

As is evident in reviewing the projected location of jobs and housing, there is likely to be a significant increase in demand for inter-regional transportation over the next twenty years, especially to the Peninsula. While some transportation demand can and should be met by alternatives to the auto, future regional development is also likely to lead to increased pressure on an already congested regional highway network.

Several improvements to the regional highway network are currently underway. Some were described in the previous section. Additional proposed improvements include the following:

- **SR 84.** A freeway extension of SR 84 to Mission Boulevard was identified as a project to be funded by local sales tax funds. Much of the right-of-way for such an extension has been reserved for many years. However, concerns about the impact of a freeway have prompted the City to recommend the consideration of alternatives for the route, including the possibility of no road in the historic alignment, or the development of a "parkway" rather than a freeway. The historic alignment of SR 84 between Decoto Road and Mission Boulevard is shown on Figure 8-8 as "Transportation Corridor."
- **SR 238 (Mission Boulevard) Widening.** Another project targeted for development by local sales tax funds is widening of State Route 238 (Mission Boulevard) from Hayward through to Mowry Avenue.
- **I- 880/I-680 Connector.** CALTRANS has begun the process of identifying alternative locations for freeway connections between I-880 and I-680 in Fremont or Milpitas. This improvement is essential to removing a significant amount of regional traffic from Mission Boulevard and Durham Road between I-680 and I-880. This improvement is assumed to be built in the next 20 years in the City's traffic model.

- **SR 61 Study.** The State has proposed a state highway west of I-880 to relieve congestion on this freeway. This route, known as State Route 61, has been under study from Oakland to the San Mateo Bridge. While proposed for extension south to the Santa Clara County line, little study of a possible SR 61 alignment in Fremont has been done. This route faces constraints due to existing development patterns and possible impacts on valuable wetlands.

Despite the expected improvements to State highways (not including SR 61), most projections show significant congestion on portions of the regional network, and especially I-880. I-880 is currently the major access road to the City's industrial area and a high level of congestion could discourage industrial development. Congestion on I-880 may also lead to recommendations for metering for freeway on-ramps. Metering can have impacts on the City's streets which should be evaluated prior to meters being installed.

## **Transportation Demand Management**

Transportation Demand Management (TDM) refers to a variety of means to reduce the level of demand for transportation. The basic goal of TDM strategies is to reduce the number of single-occupant vehicles (SOV) on the road at peak times. This reduction reduces the need for road development and reduces the environmental impacts of autos. A recently passed State Referendum (1990) requires that cities and counties adopt "Congestion Management Plans." Such plans generally include various TDM measures.

A reduction in transportation demand at peak times is accomplished in two ways: by encouraging people to use alternative ways of traveling (e.g., transit or carpools), and/or by encouraging people to travel at off-peak times. TDM strategies include the following:

- Improved transit service
- Financial and other incentives to use transit
- Disincentives to use the auto (e.g., charge for parking)
- Incentives to car-pool (e.g., establishment of car-pool coordinators, preferential parking)
- Establishment of van-pools
- Permit greater flexibility in work hours ("flex-time")

Many other TDM strategies are also being adopted or considered by cities across the nation. While TDM strategies are generally adopted or promoted by local government, implementation is done by both local governments and by employers. The City of Fremont does not currently have a comprehensive TDM program, although the City has had some large employers adopt TDM techniques as mitigation for traffic impacts.

The City's traffic model has assumed that a proportion of peak hour home-to-work trips would be diverted due to a TDM program. Without this diversion ten more intersections in the City are projected to be at level of Service E or F in the year 2010 than are currently projected. A TDM program is therefore an important element of the City's transportation management strategy.

## Transit

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AC Transit and BART are expected to continue to be the major public transit providers to Fremont. The Santa Clara County Bus service may change in the future when new BART stations are built closer to the Santa Clara County line. AC Transit and BART are addressed below.

### **Bus: AC Transit**

Three trends are at work that should increase the efficiency and use of AC transit service in Fremont in the future. One trend relates to land use, another to improvements in the design and implementation of bus service, and a third to demographics.

In regards to land use, the City is projected to fill in vacant land and generally become more intensely developed. The land use plan calls for higher intensities of commercial and residential use in central locations, such as the CBD and district centers. Higher intensity uses are more conducive to being efficiently served by transit. New development should also be more conducive to transit due to site and building design. This plan recommends stronger consideration of transit needs in the design of commercial and industrial buildings and in site design and standards for new commercial, industrial and residential subdivisions.

The second “trend” relates to improvements in transit service. AC Transit is proposing a redesign of the existing route structure called a “Comprehensive Service Plan.” At the heart of their proposal for Fremont is the “timed transfer.” The timed transfer network consists of several strategically located transit centers where several routes converge and the buses are scheduled to arrive and depart at the same time. This concept provides passengers with the widest choice of travel opportunities and the minimum amount of backtracking. AC Transit’s Comprehensive Service Plan proposes transit centers at the Fremont and Irvington BART stations, and tentatively the Warm Springs BART station, also. AC Transit proposes to implement this plan by 1993. However, the plan will require increased funding which is not yet in place.

Finally, a third trend in relation to transit is demographic. The proportion of the elderly is expected to increase in Fremont. The elderly tend to rely more on transit service than other age groups.

All of the above factors combined -- changes in land use, improved service, and changing demographics -- are unlikely to lead to a dramatic near-term shift from autos to transit. However, the combination of these factors along with other incentives and programs can help the City achieve more efficient and effective transit service over the next two decades.

In addition to better local bus service, an increase in express bus service between the East Bay and Peninsula may also be required if projections regarding job growth (and insufficient housing) on the Peninsula are realized. Such bus service would be necessary if plans for rail service from the East Bay to the Peninsula are not implemented (see below).

### **Rail: BART**

BART plans to increase its service to Fremont by adding two new stations, one in Irvington and the other in Warm Springs (see Figure 8-9). The two stations are projected to generate approximately 14,100 weekday trips by the year 2005. BART has purchased the Warm Springs site and part of the Irvington site. The construction of the extension is partially funded and BART hopes to begin service before the turn of the century. BART has recently proposed a fourth Fremont station to be located near the Fremont/Milpitas city limits. In this General Plan this station is referred to as the South Fremont Station.

BART's long term plans call for continuing the extension into Santa Clara county to downtown San Jose. The Santa Clara County extension would add another seven stations and generate an estimated 23,000 more riders each weekday.

In the interim, prior to station development, AC Transit has identified a need for more efficient transit service from the industrial and commercial areas of the City to the existing BART Station. In particular, the Warm Springs area is a considerable distance from the Fremont BART station and an express bus service to BART during commute hours would better serve both residents of the area and workers in the industrial parks.

### **Commuter Rail Service to the Peninsula**

Several transit agencies are currently reviewing the potential to establish a commuter rail line from the Fremont/Union City area over the Dumbarton rail-bridge, connecting with CALTRAIN on the Peninsula. The proposed service would use existing rail lines. Preliminary figures show that the service would attract 1000 riders each way per day during peak travel times (based on four trains per day in each direction).

As noted in the discussion of regional employment and housing projections, significant job growth and inadequate housing development are projected for the Peninsula. Such a rail line could not only serve Fremont residents, but potentially reduce existing and future traffic passing through Fremont on its way to the Peninsula.



## **Paratransit**

No projections are available on expected need for paratransit. An expected increase in the number of the elderly would imply a growing need for paratransit services in Fremont.

## **Bicycles**

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There are no projections or surveys of bicycle use to indicate future needs or demand. However, two trends indicate a growing demand for bicycle use for recreation and transportation. The increasing health-consciousness of Bay Area residents indicates an increase in people who desire to combine commuting with exercise by bicycling to work. A second trend is the projected increase in the number of Fremont jobs. The high proportion of local residents working in nearby jobs indicates a potential increase in bicycle commuting. Both of these trends require a completed and efficient bicycle network serving commute as well as recreation needs.

## **Pedestrians**

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Recent trends towards an increase in shopping and walking as recreational pursuits underscore the importance of a comfortable pedestrian environment to an active and successful retail/commercial environment. Portions of the City can be (and are now) oriented toward pedestrian use. Further enhancement of pedestrian environments in the older commercial areas and in the Central Business District would encourage more walking and less use of the auto for shopping and other needs.

## **Parking**

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There are no known proposed Park and Ride sites (as of 1990). All new development is required to provide sufficient on-site parking.

## **Commercial Transportation**

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### **Trucks**

Increasing congestion on the freeway network could lead to a significant increase in truck traffic on State designated surface-street highways in Fremont with potential negative impacts of increased congestion and wear on Fremont's roads.

## Rail

**Freight.** The two major north/south commercial rail-lines traveling through Central Park and into Irvington and Warm Springs, are proposed to be consolidated into a single right of way to facilitate the development of a BART extension. Such a consolidation would begin at the southern end of Central Park and continue south. If consolidation can be accomplished without significant reduction in freight service, it would reduce conflicts with autos and adjacent land uses. Consolidation should be evaluated and promoted for other rail lines in the City to reduce the number of roadway/rail crossings. Fewer crossings will also allow for more efficient development of grade separated crossings.

**Passenger.** A study funded by the State is examining the potential for an inter-city rail line from the City of Auburn, to Sacramento to Oakland and San Jose. The study is taken from the acronym for the cities involved: ASOS. Such train service would provide direct connections to areas not easily accessible by transit today, and provide an interim link to San Jose until a BART line is completed.

## Telecommunications

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In looking twenty years into the future, it is important to recognize that the need to transport people may be reduced by more efficient transport of information. As the efficiency and availability of electronic information transfer systems becomes more widespread and accepted, more people will be able to work at home and in more widely scattered work places than is generally accepted today. The impact of “telecommuting” on the transportation system is difficult to predict. However, cities should plan to meet the needs of the information transportation system (e.g., fibre optic lines). This issue is addressed in the Public Facilities Chapter.

One of the City’s **Fundamental Goals (F11)** is “Increased transportation alternatives and Reduced Dependency on the Automobile.” This implies that while automobile travel will continue to be an important element of Fremont’s

# Goals, Objectives, Policies and Implementation

## Fundamental Goals

transportation network, it will be one part of a comprehensive strategy to address transportation needs.

Other **Fundamental Goals** relate to the importance of preserving and enhancing the character and quality of Fremont as a community. The development of the transportation system should not be accomplished at the expense of the community's character or environmental quality. Another **Fundamental Goal** relates to maintenance of economic vitality. A convenient, efficient transportation system is essential to economic vitality.

## Transportation Goals

These various goals can conflict when provision of necessary transportation facilities is perceived to have a negative impact on the environment of the community. While these concerns must often be addressed on a case by case basis, the City's overall transportation strategy, as described in the goals, objectives and policies below, seeks to balance these sometimes conflicting goals.

- GOAL T 1: Efficient use of roadway system to provide convenient travel, reduce congestion, and improve air quality**
- GOAL T 2: Convenient alternatives to the automobile to conserve energy, reduce congestion, improve air quality and provide a variety of transportation choices to meet a variety of needs**
- GOAL T 3: Transportation facilities and corridors that enhance the City's historic, visual, natural resources**

**TRANSPORTATION (T) GOAL 1:**  
**Efficient use of roadway system to provide convenient travel, reduce congestion, and improve air quality**

**OBJECTIVE T 1.1: Completion and maintenance of the designated road network**

**Policy T 1.1.1:**

The City establishes a hierarchy of roads as defined below and as shown on Figure 8-9. The cross-sections shown in Figure 8-3 show typical, minimum right-of-way requirements for each type of non-freeway street. Actual right-of-way requirements may vary depending on site-specific constraints, and the need for on-street parking or bicycle lanes.

**Freeways:** Freeways are high speed, limited access facilities with grade separated intersections and four to ten travel lanes. Freeway right-of-way requirements, design, development and maintenance are the responsibility of the State Department of Transportation (CALTRANS). Freeway interchange design with local streets is the joint responsibility of CALTRANS and the City of Fremont.

**Arterials:** Arterials are high capacity local facilities for longer, through trips within a community. Arterials may be divided by a median, or undivided and typically have two or three lanes in each direction.

**Parkways:** A parkway functions as an arterial, but has a “park like” and open quality. A parkway requires additional right of way and setbacks for landscaping and improved scenic quality.

**Collectors:** Collectors provide access and movement within residential, commercial, and industrial areas and typically have one to two lanes in each direction. The right-of-way and pavement requirements for collectors will vary depending on the land uses that they serve.

**Locals:** These streets provide access to land and are usually one lane in each direction. Right of way requirements vary significantly depending on location, environmental sensitivity and purpose.

**Implementation 1:** Periodically review and update the roadway network diagram.

**Implementation 2:** Support an evaluation by CALTRANS of a potential high capacity roadway west of I-880 serving Fremont's industrial area (State Route 61). Such a roadway should not have significant impacts on wetlands. In the interim, conserve right of way and require development of a westside roadway connecting, if feasible, to a comparable road in the City of Newark. Assess the potential for a through route to the Santa Clara County line.

**Implementation 3:** Support the development of an I-680 to I-880 connector. Continue to work with adjacent cities and any advisory committee towards construction of the connector.

**Implementation 4:** Preserve a transportation corridor under study from I-880 and Decoto Road to Mission Boulevard to meet the future transportation needs of Fremont residents.

**Implementation 5:** Review the need for extension Rancho Higuera Road to serve as a collector street. Review need for connection between Stevenson Boulevard Extension/Cushing Parkway and Fremont Boulevard.

**Implementation 6:** The need for a pedestrian and emergency access connection between Canyon Heights Drive and Morrison Canyon Road will be assessed and provided if needed.

**Policy T 1.1.2:**

Continue to require new development to pay its fair share of roadway improvement costs.

**Implementation 1:** Continue existing program of street improvement as development occurs.

**Implementation 2:** Continue to update transportation impact mitigation structure to assure equity and meet expected transportation needs.

**Policy T 1.1.3:**

Maintain roadways in good condition.

**Implementation 1:** Evaluate citywide roadway maintenance needs annually.

**Implementation 2:** Evaluate road construction standards to accommodate AC Transit buses.

**Policy T 1.1.4:**

A roadway system within the historic community commercial centers should service these areas but not encourage through traffic that disrupts pedestrians, bicyclists and transit users.

**Implementation 1:** Implement the above policy by establishing appropriate roadway widths, design standards and traffic controls in proposed design and development plans for the City's historic community commercial centers in Irvington, Niles, Centerville and Mission San Jose. Roadway design standards in these areas may not be consistent with typical roadway standards for streets of similar classification elsewhere in the City.

**Policy T 1.1.5:**

Permit construction and maintenance of private streets to preserve environmental or historic resources, to limit the environmental impacts of roads in sensitive areas, or to meet the unique needs of a parcel of land or project.

**Implementation 1:** Define and incorporate in the City's codes and development standards appropriate standards and conditions for private roads. Such standards should consider the need for adequate off-street parking, emergency access and the necessary minimum dimensions for roads and cul-de-sacs.

**Implementation 2:** Establish construction standards in regards to materials and maintenance so that private roads are of the same quality as public roads.

**Implementation 3:** Ensure through appropriate contracts and agreements the continued maintenance of private roads and traffic control devices.

**OBJECTIVE T 1.2: Smooth traffic flow on most arterials and collectors**

**Policy T 1.2.1:** Maintain a Level of Service “D,” with a target Volume to Capacity ratio of .85 at major intersections, except where the achievement of such a level of service can be demonstrated to conflict with environmental, historic or aesthetic objectives or where regional traffic is a significant cause of congestion or where substantial transportation improvements have been required and further mitigation is not feasible because of identified constraints. Level of Service “D” may not be achieved within the Central Business District and the Industrial Planning Area.

**Implementation 1:** Identify intersections where a LOS below standard may be permissible and show them on the Circulation Diagram.

**Implementation 2:** Identify intersections where regional or inter-city traffic does not permit the City to adhere to the Level of Service standard.

**Policy T 1.2.2:** Limit access to parkways and arterials to maintain capacity, efficiency and safety of traffic flow.

**Implementation 1:** Update development policies concerning driveways and medians to be consistent with this policy.

**Policy T 1.2.3:** Coordinate traffic signals to provide smooth vehicular flow on arterials.

**Implementation 1:** Expand the number of intersections controlled by the City’s master traffic signal computer.

**Policy T 1.2.4:** Work closely with other jurisdictions responsible for roadways within Fremont and those which feed directly into Fremont’s street network.

**Implementation 1:** Work with CALTRANS and the Alameda County Transportation Authority to achieve timely construction of programmed freeway and interchange improvements.

**Implementation 2:** Work cooperatively with neighboring jurisdictions to ensure comparable plans and roadway development standards, and ensure sufficient capacity on the mutual roadway network.

**Implementation 3:** Review environmental impact reports for proposed developments in the vicinity of the City. Report potential significant impacts and recommended action to Council.

**Policy T 1.2.5:**

Divert regional traffic from local roads.

**Implementation 1:** Support improvements to the regional traffic network which will divert a significant amount of traffic from local roads, consistent with the environmental, biological and other goals and objectives in this General Plan.

**Policy T 1.2.6:v c**

Discourage through traffic on local streets.

**Implementation 1:** Monitor problem areas in response to neighborhood complaints. Recommend possible changes in the circulation system or in traffic enforcement procedures to reduce the problem.

**Policy T 1.2.7:**

Consider metered entrances in Fremont to interstate highways unless there are significant negative impacts on City streets. The costs of metered entrances shall be borne by other agencies, and CALTRANS shall be responsible for their installation and maintenance.

**Implementation 1:** City staff will review any proposed ramp metering system and submit a report to City Council on its impacts.

**Policy T 1.2.8:**

Provide adequate and convenient off-street parking to reduce the impediment of on-street parking to the efficient flow of traffic.

**Implementation 1:** Work with merchant groups and landowners in commercial centers to establish parking lots and structures where on-site parking is lacking. Consider the establishment of parking districts to finance such parking facilities.

**Implementation 2:** Periodically monitor off-street parking standards and regulations to ensure that they adequately address parking lot design, parking space dimensions and the amount of parking spaces necessary for the use.

**Implementation 3:** Evaluate need to expand enforcement programs to encourage adherence to parking regulations, especially at transit stops.



**Implementation 4:** Consider establishing parking requirements to provide for priority parking spaces for carpool vehicles.

**Policy T 1.2.9:**

Consider grade separated rail-roadway crossings to improve traffic flow at critical intersections. Prior to approval, grade separated crossings shall be evaluated for their impacts on the character of commercial centers, on neighborhood character, on neighborhood quiet and on scenic vistas from designated scenic roads.

**Implementation 1:** Designate and prioritize critical rail-roadway crossings.

**Implementation 2:** Consideration shall be given to mitigating any negative impacts of grade separated crossings by evaluating the comparative impacts of alternative design approaches.

**OBJECTIVE T 1.3:**

**A system of truck routes that efficiently and safely move goods within the city**

**Policy T 1.3.1:**

A system of truck routes shall be maintained as shown in Figure 8-12, Planned Truck Route Map.

**Implementation 1:** Develop criteria for designation of truck routes and modify truck route map, if necessary to reflect those criteria.

**Implementation 2:** Monitor use of truck route system for level of usage and adequacy of routes to serve local truck needs.

**Implementation 3:** Continue to use roadway development standards for truck use.

**Policy T 1.3.2:**

Encourage through truck traffic to use interstate highways rather than local truck routes in Fremont.

**Implementation 1:** Monitor truck traffic in the City and continue to enforce existing truck route regulations

**Implementation 2:** Encourage the development of an I-680 to I-880 freeway connector.

**Policy T 1.3.3:**

Protect neighborhoods from intrusion by truck traffic

**Implementation 1:** Include in “truck route designation criteria” the prohibition of the use of residential streets.

**Figure 8-13**  
**Planned Truck Route Map**

**OBJECTIVE T 1.4:**     **A reduction (from 1990 levels, adjusted for growth) in the percentage of single occupant automobiles in traffic at peak times to high employment areas**

**Policy T 1.4.1:**     Establish a program encouraging the use of transit, ridesharing and other alternatives to commuting by single occupant vehicle.

**Implementation 1:** Develop a Traffic Demand Management (TDM) program. The program can include the use of incentives to encourage employer participation. Monitor performance of the program.

**OBJECTIVE T 1.5:**     **Participation in efforts to reduce regional traffic congestion**

**Policy T 1.5.1:**     Coordinate local transportation planning with regional and other local plans.

**Implementation 1:** Review transportation plans of relevant neighboring jurisdictions. Continue working with Alameda County and other agencies in the development of a congestion management plan. Adopt elements of the plan as necessary.

**Policy T 1.5.2:**     Work with other jurisdictions to develop solutions to regional congestion.

**Implementation 1:** Continue participation in studies such as the Fremont-South Bay Corridor study.

**TRANSPORTATION (T) GOAL 2:**

**Convenient alternatives to the automobile to conserve energy, reduce congestion, improve air quality and provide a variety of transportation choices to meet a variety of needs**

**OBJECTIVE T 2.1:**     **A level of bus service providing a convenient and accessible alternative to the automobile**

**Policy T 2.1.1:**       Support improved bus service within Fremont.

**Implementation 1:** Modify Fremont’s Citywide Traffic Model to include the capability of evaluating the effectiveness of new transit lines, service frequency changes and fare changes.

**Implementation 2:** Evaluate AC Transit’s expanded service plan to determine whether it meets Fremont’s needs. If the plan would improve service, actively support the plan before the AC Board and prospective funding agencies (MTC, etc.).

**Policy T 2.1.2:**       Support a regional bus system serving commuters.

**Implementation 1:** Encourage continuation of express bus service to the Peninsula.

**Policy T 2.1.3:**       Consider modifying street design standards and development requirements to provide transit-supportive facilities such as bulbs, passenger shelters, benches, lighting, etc.

**Implementation 1:** Work with AC Transit to identify roadway design that would better accommodate bus transit. Consider modifying current road standards accordingly.

**Implementation 2:** Consider amending the traffic impact mitigation program to include allocations for transit facilities developed or approved by the City of Fremont.

**Implementation 3:** Work with AC Transit in establishing bus stops.

**Implementation 4:** Require the provision of transit amenities in new development where appropriate, and require the improvements as condition of project approval.

**Implementation 5:** Modify urban design regulations, zoning and other ordinances, standards and design review procedures to encourage maximum feasible transit accessibility.

**Implementation 6:** Consider modifying street improvement standards to better facilitate transit.

**OBJECTIVE T 2.2: Convenient and attractive rail service to serve Fremont residents, workers and businesses as a viable alternative to the automobile**

**Policy T 2.2.1:** Encourage the development of rail systems serving Fremont residents, workers and businesses.

**Implementation 1:** Actively support BART extension to the southern part of Fremont, with stations in Irvington, Warm Springs and South Fremont.

**Implementation 2:** Work with BART in support of extension into Santa Clara County.

**Implementation 3:** Participate in studies, such as the Auburn/Sacramento/Oakland/San Jose (ASOS) Study and Dumbarton Commute Service, related to the provision of passenger rail service to Fremont. Identify potential train station sites and designate on General Plan Land Use map, if appropriate. The general location of train station sites are identified on the land use maps.

**Implementation 4:** Work with other agencies to acquire abandoned rights-of-way and to preserve rights-of-way and track structure for future transportation corridors.

**Policy T 2.2.2:** Support County, State and Federal legislation to develop rail service as an alternative to the automobile.

**Implementation 1:** Adopt resolutions where appropriate in support of legislation and funding for rail service.

**Policy T 2.2.3:**

Consider need for future transit right-of-way when designing new or modifying existing roadways.

**Implementation 1:** Identify potential future transit/ rail corridors. Consider modifications to city street standards for those corridors to preserve options for future transit use.

**OBJECTIVE T 2.3: Easy transfer from one type of transportation to another to promote the use of alternatives to the automobile**

**Policy T 2.3.1:**

Encourage inter-transit agency coordination to facilitate interconnections.

**Implementation 1:** Work with public and private transit providers to coordinate their schedules and ticketing.

**Policy T 2.3.2:**

Provide facilities for transfers between different types of transportation.

**Implementation 1:** Determine the need for additional or expanded Park and Ride lots. Work with CALTRANS to identify additional sites. Consider alternative City actions to assist CALTRANS in providing these facilities.

**Implementation 2:** Encourage AC Transit to modify the bus staging area at the current Fremont BART station site to facilitate time transfers.

**Implementation 3:** Encourage future rail transit facilities to include inter-modal transfer facilities. Consider alternative City actions to assist in providing for such facilities.

**OBJECTIVE T 2.4: A safe and convenient bicycle network that facilitates bicycle travel for commuting to work, school, shopping and for recreation**

**Policy T 2.4.1:**

Complete the bicycle route system identified on the Planned Bicycle Route, Horse and Foot Trails map (Figure 8-13).

**Implementation 1:** Develop a priority list for planned public improvements, emphasizing bicycle route connections.

**Implementation 2:** Periodically review and update bicycle route map to show where improvements have been made, and to identify new priorities.

**Implementation 3:** Amend street improvement ordinance to require dedication and construction of bicycle routes as indicated on the bicycle system diagram.

**Implementation 4:** Provide for bicycle safety in the design of interchanges where crossings are shown on the bicycle route diagram.

**Implementation 5:** Where conflicts arise between critically needed parking spaces and bicycle lanes, consider changing bicycle routes, prohibiting parking during peak hours, or developing off-street parking. If necessary, consider prohibiting parking where it would obstruct bicycle routes.

**Policy T 2.4.2:**

To increase bicycle safety, the bicycle system shall consist of on-road striped bicycle lanes and off-road bicycle trails, whenever feasible.

**Implementation 1:** Continue use of state standards for construction of bicycle lanes and bicycle trails, at a minimum.

**Policy T 2.4.3:**

Promote bicycle travel.

**Implementation 1:** Along bicycle routes, provide bicycle route signs that indicate major destinations.

**Implementation 2:** Make available to Fremont households and businesses an easy to use bicycle route map.



**Implementation 3:** Continue to maintain adequate sweeping and pavement repairs on bicycle routes.

**Implementation 4:** Monitor bicycle accident levels and recommend safety improvements where needed.

**Implementation 5:** Amend the zoning code to require adequate and secure bicycle parking facilities at all new or substantially modified commercial or industrial development projects, educational and recreational facilities, and transit centers.

**Implementation 6:** Work with Alameda County, Newark, Milpitas, San Jose and Union City to coordinate bicycle routes.

**Implementation 7:** Work with ABAG to coordinate connections between Fremont's bike system and ABAG's Bay Trail.

**Implementation 8:** Consider the establishment of bicycle safety measures, either sponsored by the City or jointly sponsored with the school district or other appropriate organizations.

**Figure 8-14**  
**Planned Bicycle Route, etc. , Map**



**OBJECTIVE T 2.5:   Transportation services for elderly and handicapped persons unable to use conventional transit service**

**Policy T 2.5.1:**       Support the provision of demand responsive taxi and van service (“paratransit”) and other transportation services for those unable to use conventional transit.

**Implementation 1:** Regularly assist transit agencies and/or organizations in conducting a needs assessment to evaluate level of demand and sufficiency of current service.

**Implementation 2:** Continue to support a paratransit program sufficient to meet identified need.

**Implementation 3:** Consider amending impact mitigation program to allocate fees for paratransit service.

**Policy T 2.5.2:**       Encourage developers and operators of elderly housing to provide convenient transportation for their residents.

**Implementation 1:** Evaluate the feasibility of a shuttle system connecting elderly housing with other senior facilities, shopping, recreation, medical and public facilities. Evaluate potential sources of support for such a system, including economic incentives.

**OBJECTIVE T 2.6:   A pedestrian walkway system in community commercial centers, in the Central Business District, neighborhood shopping centers and serving major transit facilities**

**Policy T 2.6.1:**       Develop convenient, continuous walkway systems in the community commercial centers.

**Implementation 1:** Pedestrian walkway systems shall be identified as part of neighborhood and community commercial center design and development plans called for in this General Plan (see Land Use Chapter). Such plans shall include appropriate

landscaping and street furniture requirements for walkways. Landscaping along pedestrian pathways should reduce wind, provide shade, and stimulate interest.

**Implementation 2:** Prior to the development of design and development plans, continuous pedestrian walkways shall be provided in new developments and when there is significant modification of existing developments. Those walkways shall link building entrances to street sidewalks and crossings and transit stops, and to adjacent building entrances and activity centers where appropriate. See Land Use Chapter under Community Commercial Centers for further discussion and implementation measures.

**Policy T 2.6.2:**

Central Business District developments shall provide safe, convenient and continuous pedestrian connections and esplanades as illustrated in the Central Business District Conceptual Pedestrian System Diagram (Figure 8-14).

**Implementation 1:** Developments shall provide for pedestrian circulation. Elements of the system shall be provided in new projects or in existing projects when significant modifications are made in the development.

**Implementation 2:** The City shall provide appropriate pedestrian roadway crossings to facilitate pedestrian travel as identified on the CBD pedestrian plan.

**Implementation 3:** The Conceptual Central Business District Pedestrian System Diagram shall be more specifically delineated and updated when a design and development plan for the CBD and a proposed core area is developed, as discussed in the Land Use Chapter.

**Policy T 2.6.3:**

Develop walkway systems to serve BART stations.

**Implementation 1:** The City shall, in cooperation with BART, establish walkway plans to serve the existing and proposed BART stations. Adequate walking access shall be considered an important element of new station design.

**Figure 8-14**  
**CBD Conceptual Pedestrian System**

**Implementation 2:** After BART walkway plans are adopted, new projects or projects undergoing significant modification shall be required to provide public access as identified in the adopted walkway plan.

**Policy T 2.6.4:**

Require the provision of pedestrian walkways in all developments, including older industrial areas. Walkways shall be required on both sides of all public streets.

**Implementation 1:** Continue to require developers to finance and install pedestrian walkways in future developments.

**Implementation 2:** In hill area developments, continue to permit the use of other than conventional concrete sidewalks along residential streets in order to enhance the rural setting.

**Implementation 3:** Modify existing street improvements standards to require walkways on both sides of all public streets. Establish standards for walkways on private streets which allow for safe pedestrian travel.

**Implementation 4:** Require the provision of walkways in neighborhood commercial centers linking building entrances to street sidewalks and crossings, and linking building entrances to adjacent building entrances and activity centers, where appropriate.

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**TRANSPORTATION (T) GOAL 3:**

**Transportation facilities and corridors that enhance the City's identity, and especially its historic, visual and natural resources**

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**OBJECTIVE T 3.1: Transportation facilities and corridors that enhance community and City identity**

**Policy T 3.1.1:**

Provide street improvements and facilities that enhance neighborhood, district and City identity.

**Implementation 1:** Develop and adopt design guidelines and standards for soundwalls, street lighting fixtures, landscaping and street furniture for scenic routes and arterials. Design standards should enhance the unique identity of the City's districts.

**Implementation 2:** Develop and construct gateway features and identified gateway areas (see Land Use Chapter) to distinguish Fremont from neighboring cities and enhance Fremont's image.

**Implementation 3:** Transportation facilities and design shall conserve identified historic structures, sites and landmark trees whenever feasible.

**Policy T 3.1.2:**

Require transportation facilities that aesthetically complement their built and natural environment.

**Implementation 1:** Work with transportation providers like BART to develop station designs which complement the areas in which they are located.

**Implementation 2:** The BART extension shall be trenched, covered and sound insulated under Central Park and shall be grade separated along with the existing railroad.

**Implementation 3:** Review proposed transportation facilities in relation to identified wetlands. Identify alternative alignments that would avoid disruption of wetlands and/or mitigations for wetlands disruption.

**Implementation 4:** Design standards for Hill Planning Area roads shall minimize scarring of the hills and especially the Hill Face, as discussed in the Land Use Chapter (see Hill Planning Area).

**Implementation 5:** Implement policies and program related to Scenic Routes as discussed in the Visual Resources Section of the Natural Resources Chapter.

**Policy T 3.1.3:**

City roadway-to-roadway grade separations shall ordinarily not be allowed in historic areas, community commercial centers and residential areas. All grade separations shall be treated with sensitivity to the pedestrian environment, the visual character of the area, and the noise environment.

**Implementation 1:** Grade separations shall be evaluated for their impacts on the visual character of an area. Facilities for pedestrians and bicyclists shall be incorporated whenever feasible in roadway to roadway grade separated facilities.